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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,723	04/06/2006	Johannes Reinschke	2003P08417W0US	1912
22116 7590 07/07/2010 SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830				
EXAMINER				
KATCOFF, MATTHEW GORDON				
ART UNIT		PAPER NUMBER		
3725				
MAIL DATE		DELIVERY MODE		
07/07/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/574,723

**Applicant(s)**

REINSCHKE, JOHANNES

**Examiner**

Matthew G. Katcoff

**Art Unit**

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/200)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

**DETAILED ACTION**

1. In view of the Appeal Brief filed on 14 May 2010, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Dana Ross/  
Supervisory Patent Examiner, Art Unit 3725

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,513,385 to Jonsson et al (*Jonsson*).

**Concerning claim 15**, *Jonsson* discloses a method comprising:

determining a desired flatness of the strip via a material flow model (column 3, lines 5-8 and lines 31-34, which is a model since it models the Flatness Target in any zone which may vary);

measuring an actual flatness of the metal strip near a discharge point of the mill train (column 3, lines 7-8 and column 4, lines 58-51 as the discharge point can be either after the mill stand or after the uncoiling);

translating the measured metal strip flatness into flatness values (column 3, lines 9-19 and column 4, lines 13-17);

controlling a roll stand of the mill train via a strip shape model (column 4, lines 13-17 and 26-29) providing a relationship between intrinsic flatness  $ip$  and visible flatness  $vp$  (column 4, lines 21-24 in that the intrinsic flatness, OMFT is used as a correction factor for the visible flatness, PRFE) and that uses the desired and actual flatness values as inputs to reduce the difference between the

actual flatness and the desired flatness of the metal strip (column 4, lines 13-17 and 26-29).

**Concerning claim 16**, *Jonsson* discloses wherein the actual flatness of the metal strip is measured at the discharge point of the mill train (column 3, lines 7-8 and column 4, lines 58-51 as the discharge point can be either after the mill stand or after the uncoiling).

**Concerning claim 17**, *Jonsson* discloses wherein the actual flatness is determined as a strip shape pattern (column 2, lines 18-21 as the pattern is the flatness at different points along the strip).

**Concerning claim 18**, *Jonsson* discloses wherein the strip shape pattern is three-dimensional (implied from column 3, lines 42-44 as the preferred flatness is a function of both width and length and is a measure of the height i.e. flatness and is being compared to the actual flatness which must also then be a function of width and length).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Jonsson* in view of U.S. Patent No. 4,771,622 to Ginzburg (*Ginzburg*).

**Concerning claim 19**, *Jonsson* does not disclose determining the strip shape pattern along with a variable selected from the group of: wavelength, amplitude and phase offset.

*Ginzburg* discloses a method for operating a strip rolling mill comprising detecting the flatness of the strip (abstract) wherein a relative length of individual tracks of the metal strip is evaluated to determine the strip shape pattern (column 3, lines 49-53 and column 4, lines 28-42) along with a variable of the individual tracks consisting of: amplitude (column 4, lines 43-54).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the sensor array and flatness determination of *Ginzburg* in the method of *Jonsson* because as disclosed by *Ginzburg*, the determination of strip flatness is a well known equation in the art (column 4, line 43-44) and the array is a simple substitution of one type of measurement system for another that is well known in the art of measurements and produces predictable results and further it minimizes error (column 7, lines 39-43).

5. Claims 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Jonsson* in view of *Ginzburg* and further in view of U.S. Patent No. 6,427,507 to Hong et al (*Hong*).

**Concerning claim 20**, *Jonsson* and *Ginzburg* do not disclose using a laser to determine flatness.

*Hong* discloses an apparatus for measuring strip flatness (abstract) wherein a laser measuring device is used to determine the desired flatness of the metal strip (column 1, lines 19-26).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a laser measuring device because, as disclosed by *Hong* this is frequently used in the art of automatic shape control (column 1, lines 19-21).

**Concerning claim 21**, while *Hong* does not disclose a multi-track laser measuring device, *Ginzburg* discloses a multi-track measuring device (column 4, lines 28-42). Thus it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a multi-track laser since the modification of *Ginzburg* by *Hong* as stated in the rejection of claim 20 would have multi-track lasers to measure flatness instead of the multi-track sensors in *Ginzburg*.

**Concerning claim 22**, *Jonsson* discloses wherein the actual flatness of the metal strip is measured topographically (implied from column 3, lines 42-44 as the preferred flatness is a function of both width and length and is a measure of the height i.e. flatness and is being compared to the actual flatness which must also then be a function of width and length).

**Concerning claim 23**, *Jonsson* discloses wherein the values for the desired flatness are translated into values for the actual flatness using the strip shape model (column 4, lines 21-24 as the Flatness Target is used as a correction factor for the actual flatness).

**Concerning claim 24**, *Jonsson* discloses wherein the flatness values are translated in real-time (column 3, lines 58-62 as the strip is being measured and compared to the PRFT in real time further real time translation is well known in the art).

**Concerning claim 25**, while *Jonsson* does not disclose, the flatness values are translated in real-time via an approximation function, such a translation is well known in the art and thus it would have been obvious to a person of ordinary skill in the art at the time of the invention to do so.

6. Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Jonsson* in view of *Ginzburg* and *Hong* and in further view of U.S. Patent No. 6,779,373 to Barten et al (*Barten*).

**Concerning claim 26**, *Jonsson*, *Ginzburg* and *Hong* do not disclose applying an assumed temperature distribution in the transverse direction of the metal strip.

*Barten* discloses a modeling technique for controlling strip flatness (abstract) where the metal strip shape pattern based on the strip flatness is determined via the strip shape model by applying an assumed temperature distribution in the transverse direction of the metal strip (column 2, lines 52-55).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the modeling technique of *Barten* in the method of *Jonsson* because, as disclosed by *Barten*, this model can be used for varying



strip rolling processes and various means of controlling the flatness (column 2, lines 46-51 and 62-63). Further this would be a simple substitution of one type of modeling for another with predictable results.

**Concerning claim 27**, *Hong* discloses a laser measuring device is used to determine the desired flatness of the metal strip (column 1, lines 19-26).

**Concerning claim 28**, while *Hong* does not disclose a multi-track laser measuring device, *Ginzburg* discloses a multi-track measuring device (column 4, lines 28-42). Thus it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a multi-track laser since the modification of *Ginzburg* by *Hong* as stated in the rejection of claim 20 would have multi-track lasers to measure flatness instead of the multi-track sensors in *Ginzburg*.

**Concerning claim 29**, *Jonsson* discloses a flatness limit value is predefined at points to control the mill train (column 3, lines 30-35).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Katcoff whose telephone number is (571) 270-1415. The examiner can normally be reached on M-F 9:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dana Ross/  
Supervisory Patent Examiner, Art Unit 3725

/M. G. K./  
Examiner, Art Unit 3725  
07/01/2010